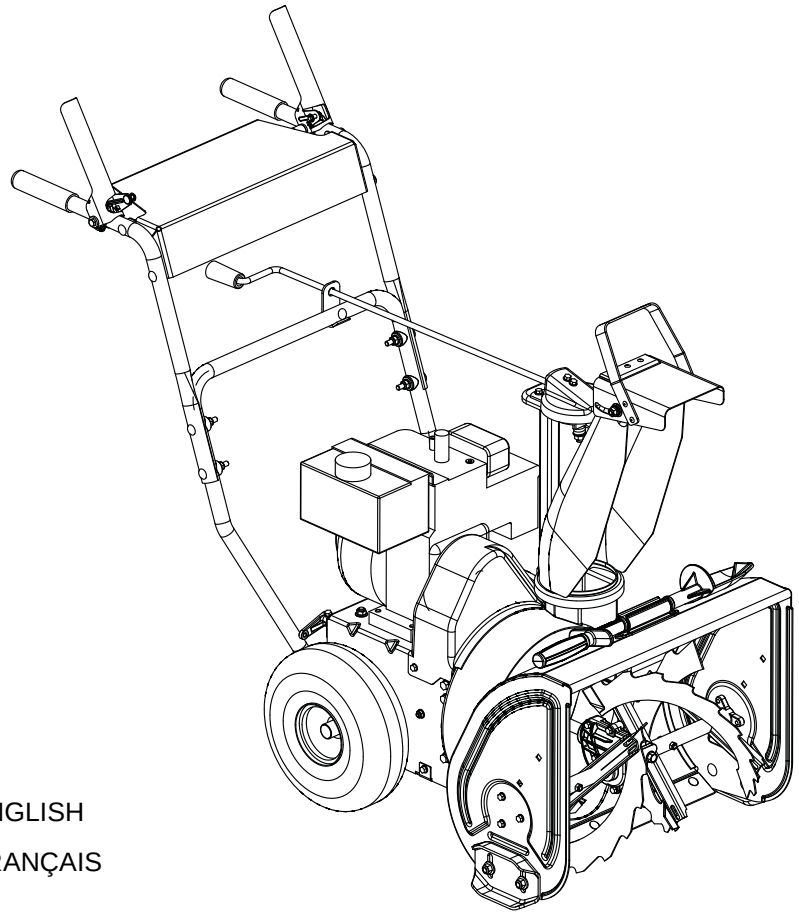
Sno-Thro®

Owner/Operator Manual

Models

939003 – ST520E



GB ENGLISH

F FRANÇAIS

02954900 5/07
Printed in USA

TABLE OF CONTENTS

SAFETY 5
ASSEMBLY 9
CONTROLS AND FEATURES 11
OPERATION 12
MAINTENANCE 15
SERVICE AND ADJUSTMENTS 17
STORAGE 21
SERVICE PARTS 22
ACCESSORIES 22
TROUBLESHOOTING 23
SPECIFICATIONS 24

INTRODUCTION

THE MANUAL

Before operation of unit, carefully and completely read your manuals. If used improperly, this unit could be dangerous and cause personal injury or property damage. The contents will provide you with safety instructions for the safe use of your unit during normal operation and maintenance.

All reference to left, right, front, or rear are given from operator standing in operation position and facing the direction of forward travel.

MODEL AND SERIAL NUMBERS

When ordering replacement parts or making service inquiries, know the Model and Serial numbers of your unit and engine.

Numbers are located on the product registration form in the unit literature package. They are printed on a serial number label, located on the frame of your unit.

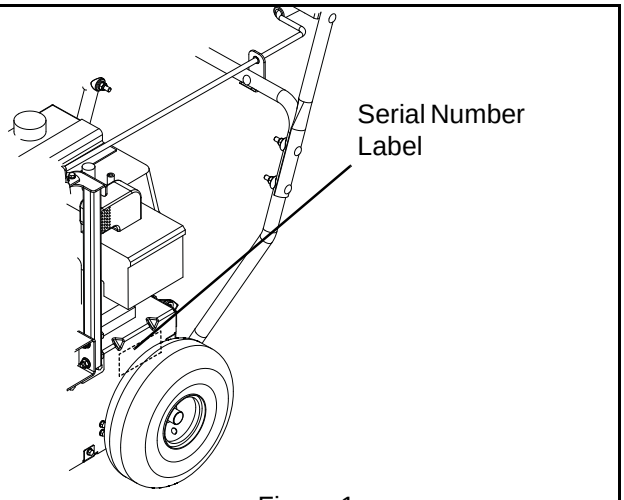


Figure 1

- Record Unit Model and Serial numbers here.

- Record Engine Model and Serial number here.

PRODUCT REGISTRATION

The Ariens dealer must register the product at the time of purchase. Registering the product will help the company process warranty claims or contact you with the latest service information. All claims meeting requirements during the limited warranty period will be honored, whether or not the product registration card is returned. Keep a proof of purchase if you do not register your unit.

Customer Note: If the dealer does not register your product, please fill out, sign, and return the product registration card to Ariens or go to www.ariens.com.

UNAUTHORIZED REPLACEMENT PARTS

Use only Ariens replacement parts. The replacement of any part on this vehicle with anything other than an Ariens authorized replacement part may adversely affect the performance, durability, or safety of this unit and may void the warranty. Ariens disclaims liability for any claims or damages, whether warranty, property damage, personal injury or death arising out of the use of unauthorized replacement parts. To locate your nearest Ariens Dealer, go to www.ariens.com on the internet.

DISCLAIMER

Ariens reserves the right to discontinue, make changes to, and add improvements upon its products at any time without public notice or obligation. The descriptions and specifications contained in this manual were in effect at printing. Equipment described within this manual may be optional. Some illustrations may not be applicable to your unit.

DELIVERY

Customer Note: If you have purchased this product without complete assembly and instruction by your retailer, it is your responsibility to:

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1. Read and understand all assembly instructions in this manual. If you do not understand or have difficulty following the instructions, contact your nearest Ariens Dealer for assistance. Make sure all assembly has been properly completed.

NOTE: To locate your nearest Ariens Dealer, go to www.ariens.com on the internet.

WARNING: Improper assembly or adjustments can cause serious injury.

2. Understand all Safety Precautions provided in the manuals.
3. Review control functions and operation of the unit. Do not operate the Sno-Thro unless all controls function as described in this manual.
4. Review recommended lubrication, maintenance and adjustments.
5. Review Limited Warranty Policy.
6. Fill out a Product Registration Card and return the card to the Ariens Company or go to www.ariens.com.

SAFETY

WARNING: To avoid injury to hands and feet, always disengage clutches, shut off engine, and wait for all movement to stop before unclogging or working on snow thrower. Hand contact with the rotating impeller is the most common cause of injury associated with snow throwers. Never use your hand to clean out the discharge chute.

Keep hands and feet away from auger and impeller.

SAFETY ALERTS

Look for these symbols to point out important safety precautions. They mean:

Attention!

Personal Safety Is Involved!

Become Alert!

Obey The Message!

The safety alert symbols above and signal words below are used on decals and in this manual. Read and understand all safety messages.

DANGER: IMMINENTLY HAZARDOUS SITUATION! If not avoided, WILL RESULT in death or serious injury.

WARNING: POTENTIALLY HAZARDOUS SITUATION! If not avoided, COULD RESULT in death or serious injury.

CAUTION: POTENTIALLY HAZARDOUS SITUATION! If not avoided, MAY RESULT in minor or moderate injury. It may also be used to alert against unsafe practices.

NOTATIONS

NOTE: General reference information for proper operation and maintenance practices.

IMPORTANT: Specific procedures or information required to prevent damage to unit or attachment.

PRACTICES AND LAWS

Practice usual and customary safe working precautions, for the benefit of yourself and others. Understand and follow all safety messages. Be alert to unsafe conditions and the possibility of minor, moderate, or serious injury or death. Learn applicable rules and laws in your area. Always follow the practices set forth in this manual.

REQUIRED OPERATOR TRAINING

Original purchaser of this unit was instructed by the seller on safe and proper operation. If unit is to be used by someone other than original purchaser; loaned, rented or sold, ALWAYS provide this manual and any needed safety training before operation.

SAFETY DECALS AND LOCATIONS

ALWAYS replace missing or damaged Safety Decals. Refer to figure below for Safety Decal locations.

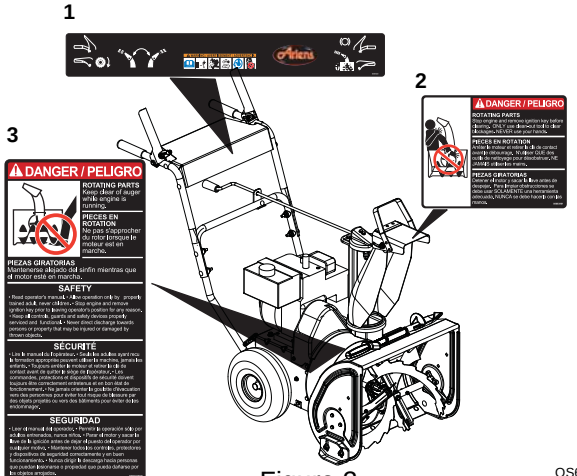


Figure 2

1. WARNING!

OL1801

Read Owner/Operator Manual.

OL4370

Keep people away from unit while operating. Keep children out of work area and under watchful care of a responsible adult.

OL0910

Never direct discharge towards persons or property that may be injured or damaged by thrown objects.

OL4010

Stop engine, remove key, read manual before making any repairs or adjustments.

OL4690

Wear appropriate hearing protection.

ONLY use clean-out tool to clear blockages. NEVER use your hands.

2. DANGER!

OS6610

ROTATING PARTS! ONLY use clean-out tool to clear blockages. NEVER use your hands. **High speed impeller rotates below discharge opening. Wait for all moving parts to stop before removing clogs or servicing.**

3. DANGER!

OS2080

ROTATING PARTS.
Keep clear of auger while engine is running.

- Read Operator's Manual.
- Allow operation only by properly trained adult, never children.
- Stop engine and remove ignition key prior to leaving the operator's position for any reason.
- Keep all controls, guards and safety devices properly serviced and functional.
- Never direct discharge towards persons or property that may be injured or damaged by thrown objects.

SAFETY RULES

Read, understand, and follow all safety practices in Owner/Operator Manual before beginning assembly or operating. Failure to follow instructions could result in personal injury and/or damage to unit.

ALWAYS remove key and/or wire from spark plug before assembly, maintenance or service. Unintentional engine start up can cause death or serious injury.

Complete a walk around inspection of unit and work area to understand:

• Work area • Your unit • All safety decals

ALWAYS check overhead and side clearances carefully before operation. ALWAYS be aware of traffic when operating along streets or curbs.

Keep children and people away. Keep children out of work area and under watchful care of a responsible adult.

NEVER allow children to operate or play on or near unit. Be alert and shut off unit if children enter area.

DO NOT allow adults to operate unit without proper training. Only trained adults may operate unit. Training includes actual operation.

Keep area of operation clear of all toys, pets, and debris. Thrown objects can cause injury.

Check for weak spots on docks, ramps or floors. Avoid uneven work areas and rough terrain. Stay alert for hidden hazards.

DO NOT operate near drop-offs, ditches, or embankments. Unit can suddenly turn over if a wheel is over the edge of a cliff or ditch, or if an edge caves in.

Falling snow, fog, etc. can reduce vision and cause an accident. Operate unit only when there is good visibility and light.

NEVER operate unit after or during the use of medication, drugs or alcohol. Safe operation requires your complete and unimpaired attention at all times.

NEVER allow anyone to operate this unit when their alertness or coordination is impaired.

DO NOT operate unit without wearing adequate winter outer garments. Wear adequate safety gear, including safety glasses with side shields, and protective gloves. Wear proper footwear to improve footing on slippery surfaces.

DO NOT wear loose clothing or jewelry and tie back hair that may get caught in rotating parts.

Protect eyes, face and head from objects that may be thrown from unit. Wear appropriate hearing protection.

Avoid sharp edges. Sharp edges can cut. Moving parts can cut off fingers or a hand.

ALWAYS keep hands and feet away from all rotating parts during operation. Rotating parts can cut off body parts.

NEVER place your hands or any part of your body or clothing inside or near any moving part while unit is running.

ALWAYS keep hands away from all pinch points.

DO NOT touch unit parts which might be hot from operation. Allow parts to cool before attempting to maintain, adjust or service.

Never direct discharge towards persons or property that may be injured or damaged by thrown objects. Use extreme caution on gravel surfaces. Stay alert for hidden hazards or traffic. Adjust Runners so Scraper Blade does not contact gravel.

DO NOT throw snow any higher than necessary.

Deflected materials can cause injury and property damage.

Always stand clear of the discharge area when operating this unit.

Fumes from engine exhaust can cause injury or death. DO NOT run engine in an enclosed area. Always provide good ventilation.

ALWAYS disengage attachment, stop unit and engine, remove key and allow moving parts to stop before leaving operator's position.

ROTATING IMPELLER CAN CAUSE SERIOUS INJURY. NEVER ATTEMPT TO UNCLOG OR CLEAN UNIT WHILE ENGINE IS RUNNING.

Read, understand, and follow all instructions in the manual and on the machine before starting.

Understand:

- How to operate all controls.
- The functions of all controls.
- How to STOP in an emergency.

Before starting engine, disengage control(s).

Use only approved extension cords and receptacles when starting units equipped with electric starter. DO NOT connect electric starter cord to any wiring system that is not a three-wire grounded system.

ALWAYS allow unit and engine to adjust to outdoor temperatures before clearing snow.

Always be sure of your footing, especially when operating in reverse or leaving the operator's position. Walk, never run during operation.

DO NOT overload the machine capacity by attempting to operate or to clear snow at too fast a rate.

Slow down and turn corners slowly.

Do not operate in reverse unless absolutely necessary. ALWAYS back up slowly. Always look down and behind before and while backing.

Disengage attachment drive when traveling from one work area to another.

Abnormal Vibrations are a warning of trouble. Striking a foreign object can damage unit. Immediately stop unit and engine. Remove key and wait for all moving parts to stop. Remove wire from spark plug. Inspect unit and make any necessary repairs before restart.

Before cleaning, removing clogs or making any inspections, repairs, etc.: disengage clutch(es), stop unit and engine, remove key, allow moving parts to stop. Allow hot parts to cool.

Run unit a few minutes after clearing snow to prevent freeze-up of attachment.

Disengage attachment when not in use. Disengage all clutches before starting engine. Adjust runners to clear gravel or crushed rock surfaces safely.

Never leave a running unit unattended. ALWAYS shut off engine before leaving unit. ALWAYS remove key to prevent unauthorized use.

Never carry passengers.

Check clutch and brake operation frequently. Adjust and service as required. All motion of drive wheels and auger/impeller must stop quickly when control levers are released.

DO NOT operate on steep slopes. DO NOT clear snow across the face of slopes. Keep all movement on slopes slow and gradual. DO NOT make sudden changes in speed or direction. Use a slow speed to avoid stops or shifts on slopes. Avoid starting or stopping on a slope.

DO NOT park unit on a slope unless absolutely necessary. When parking on a slope always block the wheels.

Use extra care when loading or unloading unit onto trailer or truck.

Secure unit chassis to transport vehicle. NEVER secure from rods or linkages that could be damaged.

DO NOT transport machine while engine is running.

Keep unit free of ice or other debris. Clean up oil or fuel spills.

This product is equipped with an internal combustion type engine. DO NOT use unit on or near any unimproved, forest-covered or brush covered land unless exhaust system is equipped with a spark arrester meeting applicable local, state or federal laws. A spark arrester, if it is used, must be maintained in effective working order by operator.

Fuel is highly flammable and its vapors are explosive. Handle with care. Use an approved fuel container.

NO smoking, NO sparks, NO flames. ALWAYS allow engine to cool before servicing.

NEVER fill fuel tank when engine is running or hot from operation.

NEVER fill or drain fuel tank indoors.

Replace fuel cap securely and clean up spilled fuel.

Never fill containers inside a vehicle or on a truck or trailer bed with a plastic liner. Always place containers on the ground away from your vehicle before filling.

When practical, remove gas-powered equipment from the truck or trailer and refuel it on the ground. If this is not possible, then refuel such equipment on a trailer with a portable container, rather than from a gasoline dispenser nozzle.

Keep the nozzle in contact with the rim of the fuel tank or container opening at all times until fueling is complete. Do not use a nozzle lock-open device.

If fuel is spilled on clothing, change clothing immediately.

Before tipping unit up onto housing, remove fuel so no spills will occur. Ensure unit is secure and will not tip over during maintenance.

ALWAYS keep protective structures, guards, and panels in good repair, in place and securely fastened. NEVER modify or remove safety devices.

DO NOT change engine governor settings or over-speed engine.

Fumes from engine exhaust can cause injury or death. DO NOT run engine in an enclosed area. Always provide good ventilation.

ALWAYS maintain unit in safe operating condition. Damaged or worn out muffler can cause fire or explosion.

Keep all hardware properly tightened. Check shear bolts frequently.

Maintain or replace safety and instruction labels, as necessary.

NEVER store unit with fuel in fuel tank, inside a building where any ignition sources are present such as hot water heaters, space heaters, or clothes dryers. Allow the engine to cool before storing in any enclosure.

For extended storage, clean unit thoroughly. See Engine Manual for proper storage.

Use only attachments or accessories designed for your unit.

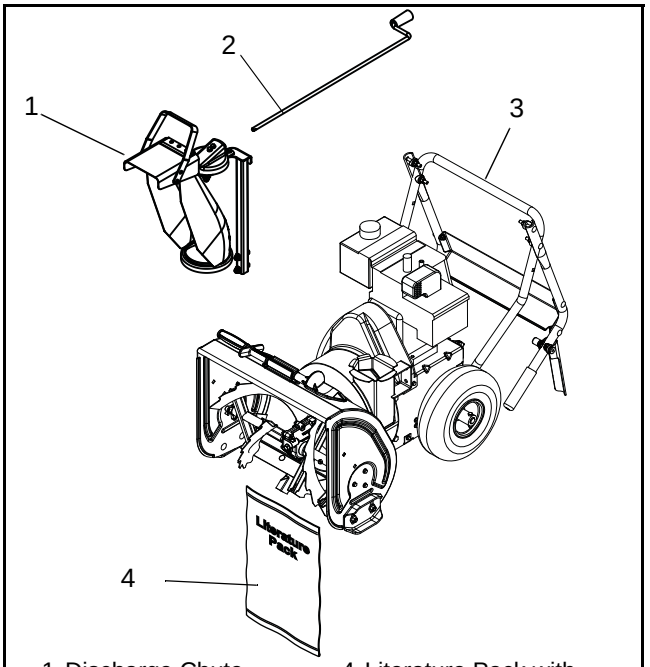
Check components frequently. If worn or damaged, replace with manufacturer’s recommended parts.

ASSEMBLY

WARNING: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

WARNING: Dropping or tipping over boxed unit could result in personal injury or damage to unit.

PACKAGE CONTENTS



1. Discharge Chute
2. Chute Crank
3. Sno-Thro Unit
4. Literature Pack with Extra Shear Bolts

Figure 3

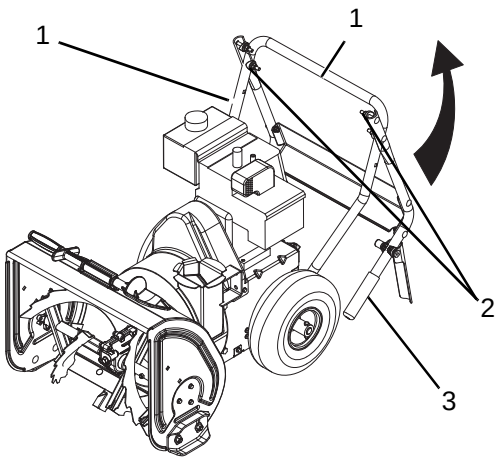
ASSEMBLY

Tools Required:

- Pliers
- Open-End Wrenches: 3/8, 7/16, 1/2, 9/16 in. and/or Adjustable Wrench
- Tire Gauge

Unfold Handlebar (Figure 4)

1. Remove the lower and loosen the upper hardware on the handlebar assembly.
2. Rotate the handlebars into operating position.
3. Install and tighten the hardware on the handlebar assembly.



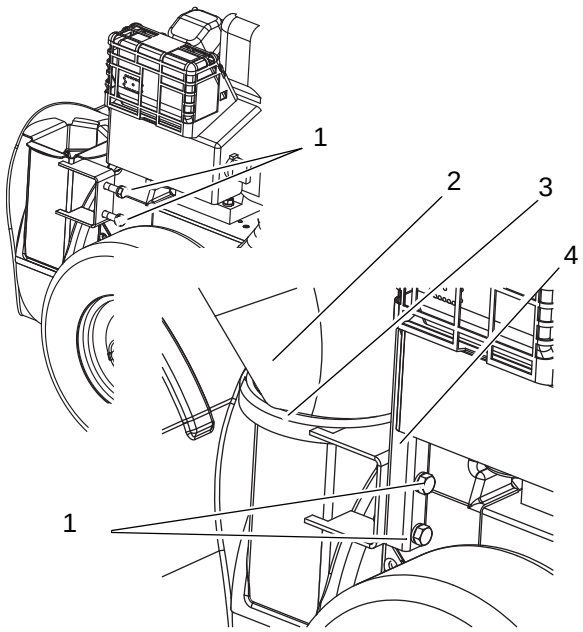
1. Lower Handlebar
2. Hardware
3. Upper Handlebar

Figure 4 OS7035

Install Discharge Chute

(Figure 5)

1. Grease underside of discharge chute ring (if not already greased).
2. Remove mounting hardware from the bottom of the chute pedestal.
3. Install discharge chute over opening in the auger housing and secure pedestal to auger housing with hardware removed in step 2.



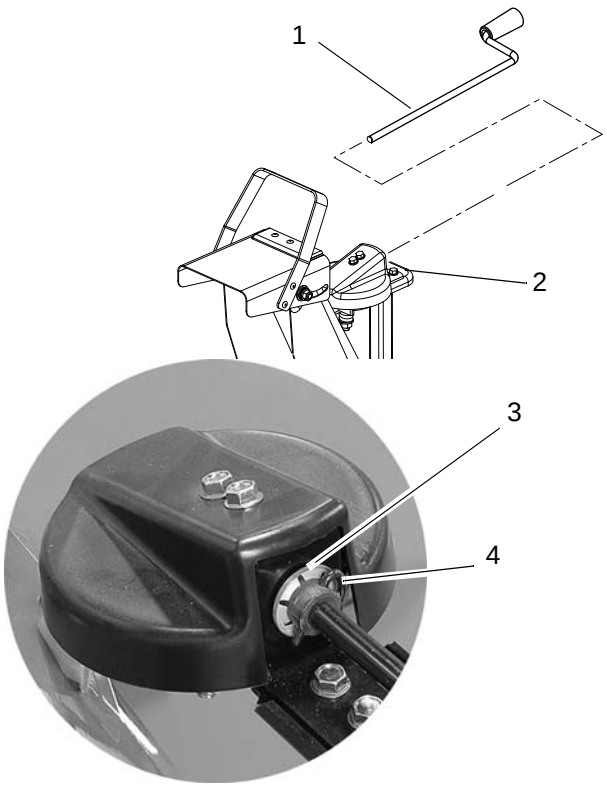
1. Mounting Hardware
2. Discharge Chute
3. Discharge Chute Ring
4. Chute Pedestal

Figure 5 OS7050 OS7055

Install Discharge Chute Crank

(Figures 3 and 6)

1. Slide chute crank through crank support bracket.
2. Connect the chute crank to the pinion gear on chute with spring clip.



1. Chute Crank
2. Crank Support Bracket
3. Pinion Gear
4. Spring Clip

OS7065
OS0001

Figure 6

Check Tire Pressure

Check tire pressure and adjust to the pressure listed on tire sidewall.

CAUTION: Avoid injury! Explosive separation of tire and rim parts is possible when they are serviced incorrectly:

- Do not attempt to mount a tire without the proper equipment and experience to perform the job.
- Do not inflate the tires above the recommended pressure.
- Do not weld or heat a wheel and tire assembly. Heat can cause an increase in air pressure resulting in an explosion. Welding can structurally weaken or deform the wheel.
- Do not stand in front or over the tire assembly when inflating. Use a clip-on chuck and extension hose long enough to allow you to stand to one side.

Check Auger Gearcase Oil

Check oil level in auger gearcase (see *Check Auger Gearcase* on page 16).

Check Engine Crankcase Oil

IMPORTANT: The engine is shipped with 5W-30 oil in crankcase. Refer to Engine Manual for detailed instructions.

Fill Engine Fuel Tank

Refer to Engine Manual for proper fuel type and tank capacity.

Check Function of all Controls

Ensure unit runs and performs properly. Refer to *Operation*.

Run-in Attachment Belt

1. Start unit in a well-ventilated area according to *Starting and Shut Off* on page 14.
2. Engage attachment clutch lever and run attachment for about 15 minutes.
3. Stop unit, wait for all moving parts to stop, and remove spark plug wire.
4. Adjust belt fingers, if necessary. See *Attachment Drive Belt Replacement* on page 20.
5. Adjust clutch according to *Attachment Clutch/Brake Adjustment* on page 18.

CONTROLS AND FEATURES

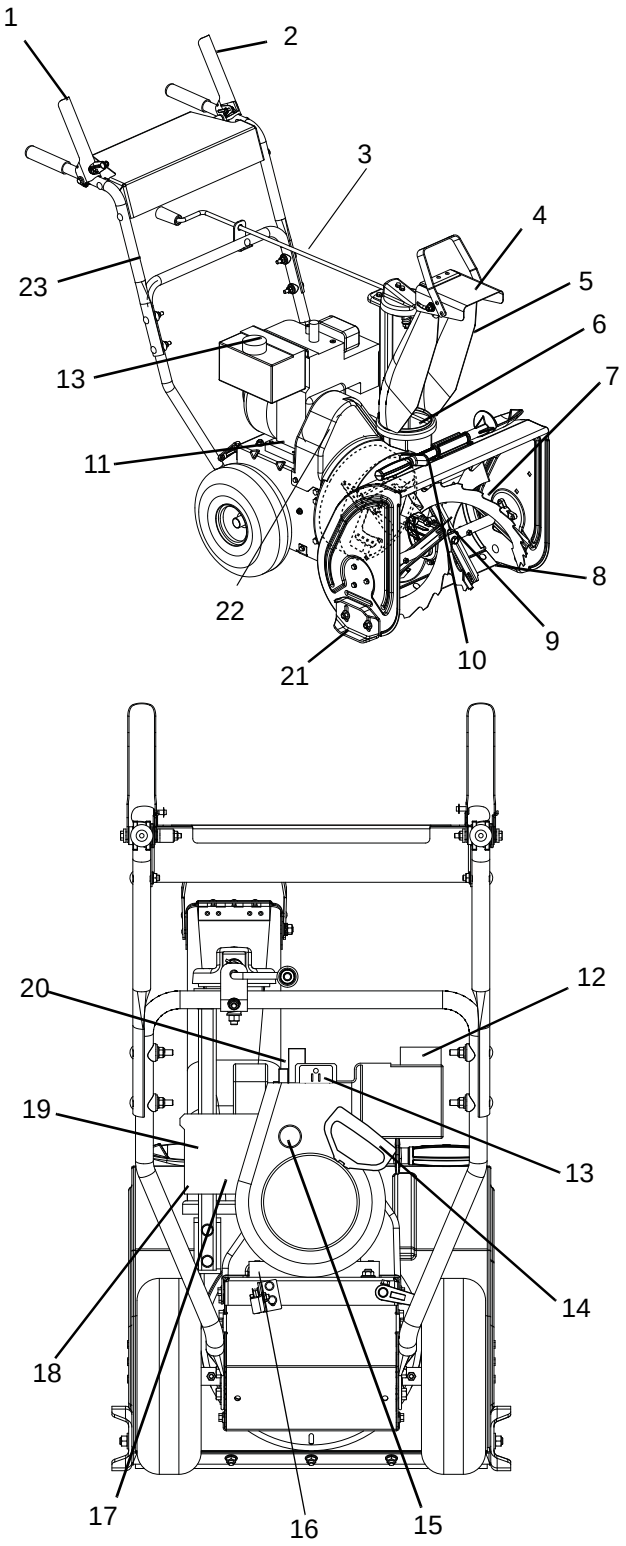


Figure 7

1. Attachment Clutch Lever
2. Traction Drive Clutch Lever
3. Chute Crank
4. Discharge Chute Deflector
5. Discharge Chute
6. Impeller
7. Auger
8. Scraper Blade
9. Auger Gearcase
10. Clean-out Tool
11. Oil Fill and Dipstick
12. Gas Tank and Cap
13. Electric Starter
14. Recoil Starter Handle
15. Primer Bulb
16. Oil Drain Plug
17. Throttle (Engine Stop)
18. Ignition Switch (push-pull)
19. Choke
20. Spark Plug and Wire
21. Runner(s)
22. Belt Cover
23. Handlebar

OPERATION

WARNING: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

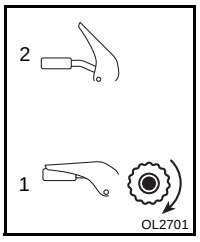
WARNING: To avoid injury to hands and feet, always disengage clutches, shut off engine, and wait for all movement to stop before unclogging or working on snow thrower. Keep hands and feet away from auger and impeller.

CONTROLS AND FEATURES

See Figure 7 for all Controls and Features locations.

Traction Drive Clutch - Left Hand Lever

IMPORTANT: Do not "feather" the traction drive clutch to control speed or run the unit with the traction drive clutch partially engaged. Continued use with the traction drive clutch partially engaged will damage the transmission.

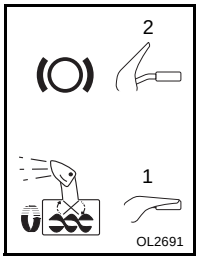


Squeeze the Traction Drive Clutch Lever against the Handlebar (1) to engage wheel drive for propelling unit. Forward speed will vary according to snow depth and moisture content.

Release lever (2) to stop movement.

NOTE: When traveling to or from the area to be cleared, press down on the handlebars enough to raise the front of the unit slightly off the surface, disengage traction drive clutch and push unit to new work area.

Attachment Clutch - Right Hand Lever

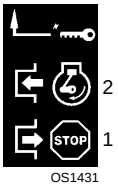


Squeeze Attachment Clutch Lever against handlebar (1) to engage attachment. Release both clutch levers (2) to disengage power and apply brake to attachment.

IMPORTANT: If the belt squeals when the attachment clutch lever is engaged, the impeller may be frozen in the auger housing. Immediately release the attachment clutch lever and move the unit into a heated area to thaw.

NOTE: If belt squeals when impeller turns freely, see *Attachment Clutch/Brake Adjustment* on page 18.

Ignition Switch (Push/Pull Safety Key)

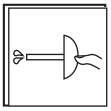


Key Switch has two positions:

1. “Stop” - pulled out
2. "Run" - pushed in

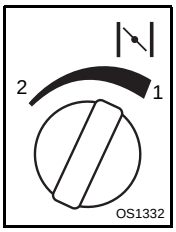
NOTE: DO NOT twist key after it is inserted.

Primer Bulb



Pushing the primer bulb in adds fuel for easier engine start. Refer to *Starting and Shut Off* on page 14.

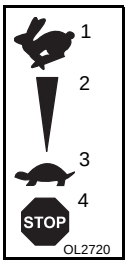
Choke Control Knob



1. Choke Closed position: chokes off air to engine for easier start.
2. Choke Open position: allows for normal operation.

IMPORTANT: Gradually open choke after engine starts.

Throttle



The throttle controls the engine speed. To increase or decrease the engine speed, adjust to:

1. Fast (normal or warm starts)
2. Part-Throttle
3. Slow (cold weather starts)
4. Stop (engine is off)

Electric Starter

The electric starter will start a properly choked and cranked engine when the starter button is pushed. Refer to *Starting and Shut Off* on page 14.

Recoil Starter Handle

When pulled, handle will turn engine over.

IMPORTANT: DO NOT let handle snap back against starter.

Snow Clean-Out Tool (Figure 8)

WARNING: Hand contact with the rotating impeller is the most common cause of injury associated with snow throwers. Never use your hand to clean out the discharge chute.

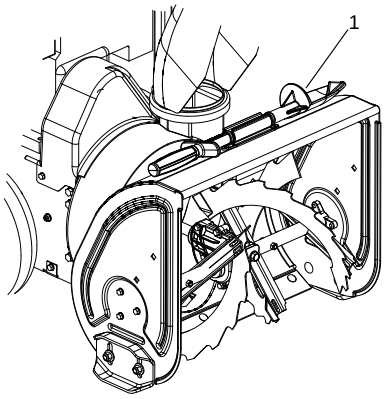


Figure 8

To clear the discharge chute:

1. Shut off the engine.
2. Wait 10 seconds and make sure impeller blades have stopped rotating.
3. Remove the snow clean-out tool (1) from the auger housing and use it to remove the clog from the discharge chute.
4. Replace the snow clean-out tool on the auger housing.

Discharge Chute Deflector

ALWAYS position discharge chute deflector at a safe angle before starting engine.

DO NOT throw snow any higher than necessary.

Push deflector handle forward or down to throw snow lower. Pull deflector handle up or to the rear to throw snow higher.

IMPORTANT: If Chute Deflector does not stay in set position, adjust as directed in *Discharge Chute Deflector* on page 17, or repair before operation.

Discharge Chute

Discharge chute rotates 200°.

ALWAYS position discharge chute in safe direction and angle, away from operator and bystanders, before starting engine.

Chute Crank

IMPORTANT: If chute does not stay in set position, adjust as directed in *Discharge Chute* on page 18, or repair before operation.

Rotate the Chute with Discharge Chute Crank.

IMPORTANT: DO NOT force frozen chute controls. If still frozen, take to warm place until controls are free.

Scraper Blade

The scraper blade allows the back of the housing to keep better contact with the surface being cleared. It also prevents damage to the housing from normal wear.

IMPORTANT: DO NOT allow Scraper Blade to wear too far or Auger/Impeller housing will become damaged.

Runners

The runners control the distance between the scraper blade and the ground. Adjust runners equally to keep blade level with the ground. Refer to *Pre-Start* on page 13 for recommended settings.

FILLING FUEL TANK

WARNING: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

To add fuel to fuel tank:

1. ALWAYS place unit in open or well-ventilated area.
2. Stop engine and allow to cool.
3. Clean Fuel Cap and surrounding area to prevent dirt from entering Fuel Tank.
4. Remove Cap.

IMPORTANT: DO NOT use gasohol or gasoline containing alcohol. See Engine Manual for correct type and grade of fuel.

5. Fill fuel tank to within 1/2 in. (1.2 cm) below bottom of filler neck with unleaded gasoline.

NOTE: Tank capacity is 2 qt (1.96 L).

6. Replace Fuel Cap and tighten.
7. ALWAYS clean up any spilled fuel.

PRE-START

1. Frozen Impeller

IMPORTANT: Before starting engine, check impeller to be sure it is not frozen.

To check impeller:

1. With ignition key switch in “Stop” position, squeeze Attachment Clutch Lever to Engaged position.
2. Pull Recoil Starter Handle.
3. If Impeller is frozen, (cannot pull Starter Handle) move unit to a heated area and thaw to prevent possible damage.

2. Check Function of Clutches

If clutches do not engage or disengage properly, adjust or repair before operation (see *Check Clutch Operation* on page 15).

3. Check Runners

Check and adjust Runners (see *Runners* on page 17). Allow 1/8 in. (3 mm) between scraper blade and hard, smooth surface(s). Allow 1-1/4 in. (30 mm) between scraper blade and uneven or gravel surfaces.

4. Check Engine Fuel & Crankcase Oil

WARNING: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

Check and add fuel if required. Check that the engine crankcase oil is full using dipstick. Refer to Engine Manual for detailed instructions.

TO STOP IN AN EMERGENCY

Immediately release both control levers to stop unit in an emergency. Stop engine, remove key and wait for all rotating parts to stop before leaving operator's position.

STARTING AND SHUT OFF

WARNING: FAILURE TO FOLLOW INSTRUCTIONS could result in personal injury and/or damage to unit. DO NOT attempt to start your unit at this time. Read entire Owner/Operator Manual and the Engine Manual first.

IMPORTANT: Allow unit and engine to adjust to the outdoor temperature before clearing snow. Before shut-off, run the attachment a few minutes to prevent impeller freeze-up.

NOTE: Try out each control without the engine running to see how it works and what it does.

Manual Start

1. Turn discharge chute straight ahead.
2. Make sure that the traction clutch and attachment drive clutch levers are fully disengaged.
3. Push Primer Bulb 2 or 3 times for cold engine.

NOTE: When temperature is below -15° F (-26° C) additional priming may be needed.

4. If engine is cold, apply choke. See Engine Manual for detailed instructions.

NOTE: A warm engine requires less choking than a cold engine.

5. Set throttle to proper starting position.
6. Insert key into ignition switch and push into RUN position. DO NOT twist key after it is inserted.
7. Grasp starter handle and pull rope out slowly until it pulls harder. Let rope rewind slowly.
8. Pull rope with a rapid continuous full arm stroke. Let rope rewind slowly.

IMPORTANT: DO NOT let Starter Handle snap against Starter.

9. Repeat steps 7 and 8 until engine starts. (If engine does not start, refer to *TROUBLESHOOTING* on page 23.)
10. Adjust choke as needed.
11. Set throttle to Part Throttle or Slow position for adaptation to outside temperature or travel. Set throttle to Fast position for normal operation.

Electric Start (120V)

1. Connect extension cord to starter.

IMPORTANT: Prevent damage to unit. Know voltage of your starter and only use matching outlets.

2. Plug extension into 120V 3-wire, grounded outlet.
3. Turn discharge chute straight ahead.
4. Make sure that the traction clutch and attachment drive clutch levers are fully disengaged.
5. Push Primer Bulb 2 or 3 times for cold engine.

NOTE: When temperature is below -15° F (-26° C) additional priming may be needed.

6. Insert key into ignition switch on engine and push into "Run" position. DO NOT twist key after it is inserted.
7. If engine is cold, apply choke. A warm engine requires less choking than a cold engine. See Engine Manual for detailed instructions.
8. Set throttle to proper starting position.
9. Press starter button on engine until engine starts.

IMPORTANT: DO NOT operate starter more than 15 seconds per minute, as overheating and damage can occur. (If engine does not start, refer to *TROUBLESHOOTING* on page 23.)

10. Adjust choke as needed.
11. Disconnect power cord from outlet, then starter.
12. Set throttle to Part Throttle or Slow position for adaptation to outside temperature or travel. Set throttle to Fast position for normal operation.

Shut Off

1. Release Traction Drive Clutch Lever and allow unit to come to a complete stop.
2. Run Impeller a few minutes after use to prevent freeze-up of Impeller.
3. Release Attachment Clutch Lever and wait for all moving parts to come to a complete stop.
4. Move Throttle to the "Stop" position.
5. Remove key.

SNOW REMOVAL

IMPORTANT: Allow unit and engine to adjust to the outdoor temperature before clearing snow.

IMPORTANT: Do not "feather" the traction drive clutch to control speed or run the unit with the traction drive clutch partially engaged. Continued use with the traction drive clutch partially engaged will damage the transmission.

NOTE: Attachment clutch should be engaged before wheel drive clutch when throwing snow.

1. Engage Attachment Clutch - Right Hand Lever.
2. Engage Traction Drive Clutch - Left Hand Lever.

IMPORTANT: DO NOT overload unit capacity by attempting to clear snow at too fast a rate. Use slow speed to clear deep or hard packed snow.

Tips for Operation

Snow is best removed as soon as possible after snow fall.

To clear an area, run unit in an overlapping series of paths. For large areas, start in the middle and throw snow to each side, so snow is not cleared more than once.

ALWAYS direct snow away from area to be cleared and with direction of the wind.

TRAVELING

To travel from one work area to another:

1. Set Throttle to Slow or Part-Throttle position.
2. Press down on handlebars enough to raise front of unit slightly off surface.
3. Disengage traction drive clutch and push unit to new work area.

TRANSPORT

ALWAYS shut off engine, remove key, and drain fuel when transporting unit on a truck or trailer.

Use extra care when loading or unloading unit onto trailer or truck.

Secure unit chassis to transport vehicle. NEVER secure from rods or linkages that could be damaged.

DO NOT transport machine while engine is running.

MAINTENANCE

Ariens Dealers will provide any service or adjustments which may be required to keep your unit operating at peak efficiency. Should engine service be required, contact an Ariens dealer or an authorized engine manufacturer's service center.

WARNING: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

SERVICE POSITION

WARNING: Before tipping unit up onto housing, remove fuel so no spills will occur and remove battery (if equipped). Ensure unit is secure and will not tip over during maintenance.

Place unit on a flat level surface. Tip unit forward onto front of auger housing for service. Ensure unit is secure and will not tip over. Strap and clamp onto bench if needed.

Service Position

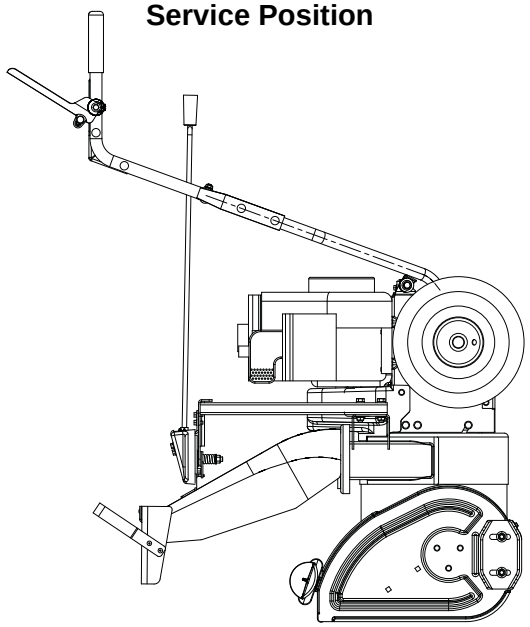


Figure 9

MAINTENANCE SCHEDULE

The chart below shows the recommended maintenance schedule that should be performed on a regular basis. More frequent service may be required.

MAINTENANCE SCHEDULE

Service Performed	Each Use	Every 5 hrs.	Every 25 hrs.	Yearly
Check Fasteners	•			
Check Clutch Operation	•			
Check Clutch Spring Adjustments		*	•	
Clean Engine	•			
Check Engine Oil		•		
Change Engine Oil		**	•	
Check Tire Pressure			•	
Check Auger Gearcase			•	•
General Lubrication			•	•

* After first five hours of operation.

** After first two hours of operation.

CHECK FASTENERS

Make sure all hardware is tightened properly.

CHECK CLUTCH OPERATION

Auger / impeller must stop within 5 seconds when attachment clutch/impeller brake lever is released.

Wheels must stop quickly when traction drive clutch lever is released.

If clutches do not engage or disengage properly, adjust or repair before operation (see *Attachment Clutch/Brake Adjustment* on page 18 or *Traction Drive Clutch Adjustment* on page 19).

CHECK CLUTCH SPRING ADJUSTMENT

Make sure the attachment clutch and traction drive clutch are adjusted to the range specified in *Attachment Clutch/Brake Adjustment* on page 18 or *Traction Drive Clutch Adjustment* on page 19.

CLEAN ENGINE

Refer to Engine Manual for detailed instructions.

CHECK ENGINE OIL

The engine crankcase oil should be checked every 5 hours of operation. Oil level MUST be maintained in safe operating range on dipstick at all times or engine damage will result (See Engine Manual).

Park unit on a level surface. Refer to Engine Manual for detailed instructions.

CHANGE ENGINE OIL

Change oil after first 2 hours of operation, thereafter change oil every 25 hours (more often if required). Refer to Engine Manual for detailed instructions.

Run engine just prior to changing oil. Warm oil will flow more freely and carry away more contamination. Remove the oil drain plug from the rear of the unit and tip the unit back to help drain all the oil.

CHECK TIRE PRESSURE

Keep tires at pressure listed on the tire sidewall.

CHECK AUGER GEARCASE

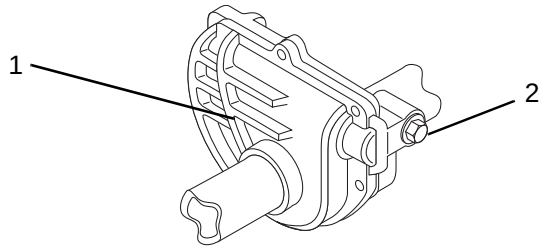
IMPORTANT: Proper oil level must be maintained.

Gear cases are filled to the correct level at the factory. Unless there is evidence of leakage, no additional lubricant should be required. Check oil level each season or every 25 hours of operation.

To ensure adequate lubricant level:

1. Remove filler plug (Figure 9). Lubricant must be at least up to bottom of lubricant filler hole with unit resting on a level-surface.
2. Add lubricant if required. Allow oil to drain to level of plug and replace plug.

IMPORTANT: Use only Ariens special gear lubricant L-2 (Part Number 00008000). Gearcase filler plug may require an application of Loc-Tite® 565 thread sealant with repeated servicing.



1. Auger Gearcase
2. Filler Plug

Figure 9 OS1830

GENERAL LUBRICATION

IMPORTANT: Wipe each fitting clean before and after lubrication. Do not wipe gearcase filler plug; wiping the gearcase filler plug may remove thread sealant and cause leaks.

IMPORTANT: DO NOT allow grease or oil to get on the belts.

NOTE: Apply Ariens Hi-Temp Grease or equivalent to the lubrication fittings. See *SERVICE PARTS* on page 22.

Sno-Thro should be lubricated (Figure 10) at beginning of season or every 25 operating hours.

Auger Shaft

NOTE: To grease auger shaft, remove shear bolt nuts, and shear bolts. Apply grease at the grease zerks and then turn the auger shaft. Replace shear bolts per instructions in *Shear Bolts* on page 17.

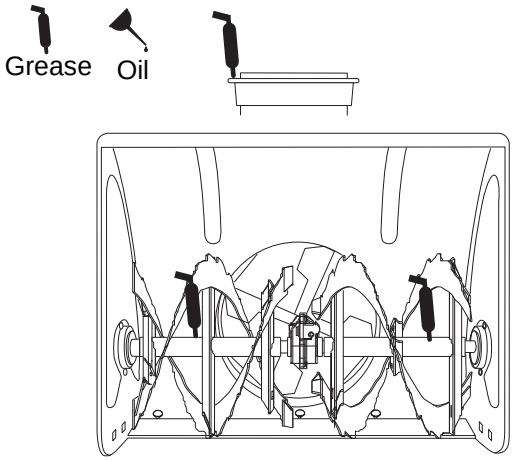


Figure 10 OS1373

WARNING: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

SCRAPER BLADE

IMPORTANT: Damage to auger/impeller housing will result if blade wears down too far.

Scraper blade is adjustable to compensate for wear.

To adjust scraper blade:

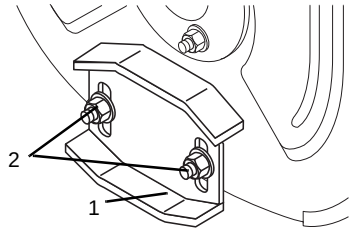
1. Tip unit back onto handlebar, support housing and loosen nuts retaining blade.
2. Adjust runners to fully raised position (housing closest to ground).
3. Reposition scraper blade flush with runners and tighten lock nuts.

RUNNERS

Runners should be adjusted as conditions require (Figure 11).

1. Position unit on a hard, flat, smooth level surface.
2. Adjust runners by inserting a spacer of desired thickness under center of scraper blade, loosen runner hardware, slide runners to flat surface. Allow 1/8 in. (3 mm) between scraper blade and hard smooth surfaces. Allow 1-1/4 in. (30 mm) between scraper blade and uneven or gravel surfaces. Retighten hardware.

NOTE: Keep housing level by adjusting runners equally.



1. Runner
2. Runner Hardware

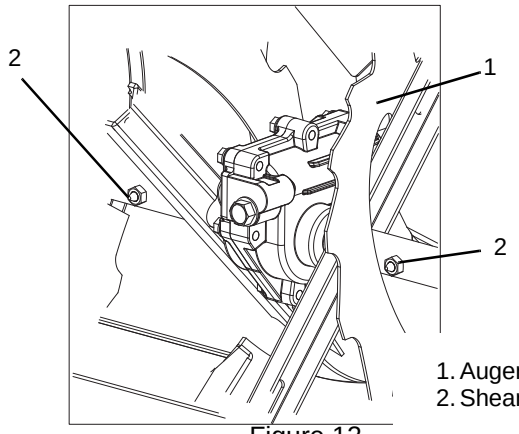
OS0482

Figure 11

SHEAR BOLTS

IMPORTANT: Use only Ariens shear bolts for replacement. Use of any other type of shear bolt may result in severe damage to unit.

Occasionally a foreign object may enter the auger/impeller housing and jam the auger, breaking shear bolts (Figure 12) which secure the auger to the shaft. This allows auger to turn freely on the shaft preventing damage to gear drive.



1. Auger
2. Shear Bolts

Figure 12

For Replacement:

1. Align shear bolt holes in auger with shear bolt holes in the shaft.
2. Drive shear bolt through hole (if shear bolt was broken this will drive remaining part from shaft).
3. Secure shear bolt with nut.

NOTE: DO NOT overtighten the shear bolt. Tighten shear bolt to 5.8 – 12.2 lbf-ft (7.9 – 16.5 N•m).

DISCHARGE CHUTE DEFLECTOR

Deflector must stay in selected position while throwing snow.

To adjust, loosen then retighten hardware to desired deflector drag force (Figure 13).

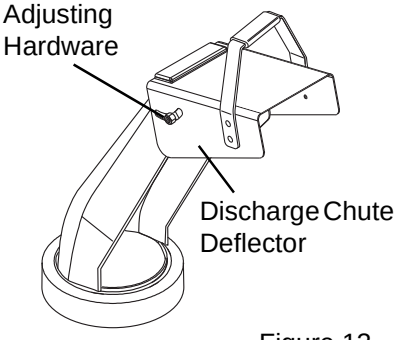
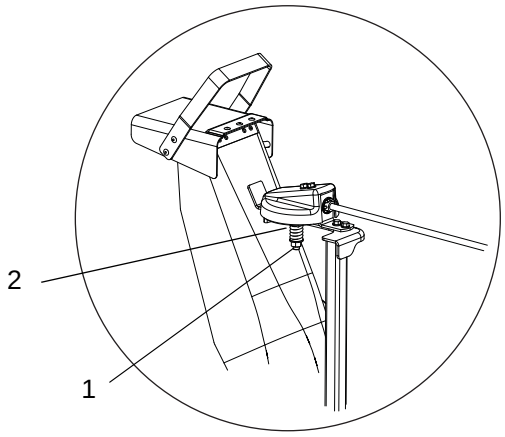


Figure 13

OS1113

DISCHARGE CHUTE

If chute does not stay in position while operating, tighten nut on carriage bolt at pivot point to increase tension on spring (Figure 14).



1. Carriage Bolt
2. Spring

Figure 14

ATTACHMENT CLUTCH/BRAKE ADJUSTMENT

WARNING: IMPROPER ADJUSTMENT could result in unexpected movement of auger and impeller causing death or serious injury. AUGER / IMPELLER MUST STOP within 3 seconds when Attachment Clutch/Impeller Brake Lever is released.

WARNING: Adjustment procedure requires the engine to be run with the belt cover off. AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

1. Check attachment clutch lever measurement.
   a. Start engine and run at full throttle.
   b. Slowly squeeze the attachment clutch lever until auger shaft begins to rotate.
   c. Measure the distance from the end of the clutch lever to the handlebar as shown in Figure 15. The distance between the clutch lever and the handlebar should be 5-5/8 - 6-1/4 in. (14.3 - 15.9 cm).
   d. Shut off engine.
   e. If clutch lever measurement is within specified range, no adjustment is necessary. If clutch lever measurement is outside the specified range, follow steps 2 - 7.

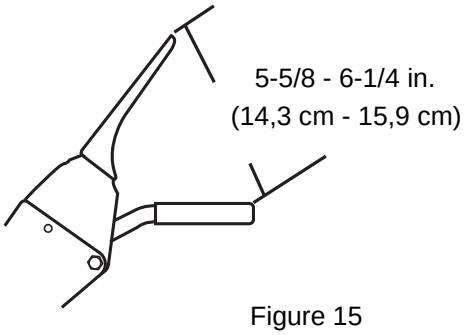


Figure 15

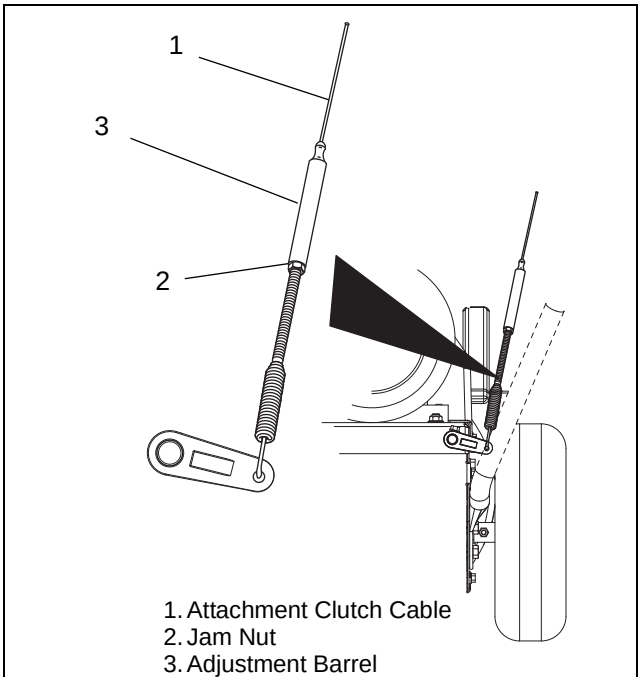
OS2490

CAUTION: The attachment clutch cable must be slightly slack when the clutch lever is disengaged. The attachment brake will not function properly if the cable is too taut.

2. Loosen jam nut on attachment clutch cable adjustment barrel (Figure 16).

   Turn adjustment barrel up the cable to decrease the distance between clutch lever and handlebar.

   Turn the adjustment barrel down the cable to increase the distance between clutch lever and handlebar.



1. Attachment Clutch Cable
2. Jam Nut
3. Adjustment Barrel

Figure 16

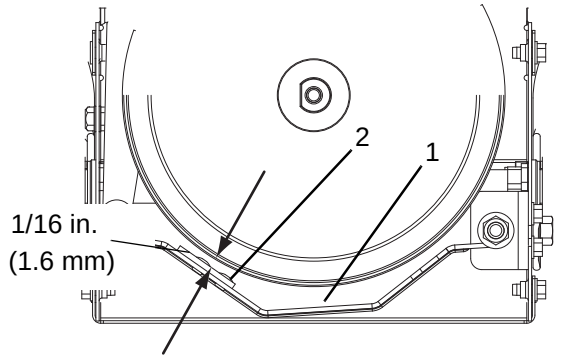
3. Check attachment clutch lever measurement and tighten the jam nut on the attachment clutch cable adjustment barrel when the clutch lever measurement is in range. Proceed to step 6.

NOTE: If clutch cannot be adjusted to the specified range with the cable adjustment alone, perform steps 4 – 5.

4. Remove two screws securing belt cover to unit and remove belt cover.
5. Adjust the attachment idler position.
   a. Loosen attachment idler nut (Figure 21).
   b. To increase distance between clutch lever and handlebar, move the idler towards the attachment belt.
   c. To decrease the distance between the clutch lever and handlebar, move the idler away from the attachment belt.
   d. Tighten idler adjustment nut.
   e. Check clutch lever measurement.
6. Check Brake

   When the clutch lever is disengaged, the brake must contact the attachment belt.

   When the clutch lever is engaged, the brake must be more than 1/16 in. (1.6 mm) away from the belt and must not contact the frame (Figure 17).



1. Drive Brake
2. Brake Shoe and Pad

Figure 17

7. Repeat steps 5 – 6 until attachment clutch lever distance and brake contact are correct.

IMPORTANT: If attachment clutch/brake cannot be adjusted within tolerances, see your Dealer for repairs.

8. Check belt finger clearance.

   With clutch lever engaged, belt fingers should be positioned as shown in Figure 22. Adjust belt fingers as necessary.
9. Replace belt cover.
10. Check that auger/impeller stops within 5 seconds after attachment clutch/impeller brake lever is released.

TRACTION DRIVE CLUTCH ADJUSTMENT

IMPORTANT: Operating the unit with the traction drive clutch improperly adjusted will damage the transmission. Make sure the clutch is adjusted to the specifications listed below.

To test traction clutch (Figure 18):

1. Without engine running, push unit forward while slowly moving the traction drive clutch lever toward the handlebar.
2. Measure distance between lever and handlebar when the wheels begin to brake. If distance is not 6-1/8 in. - 6-3/4 in. (15,5 cm - 17,1 cm), adjust the traction clutch.

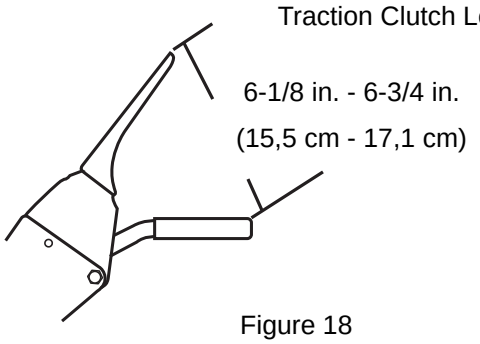


Figure 18

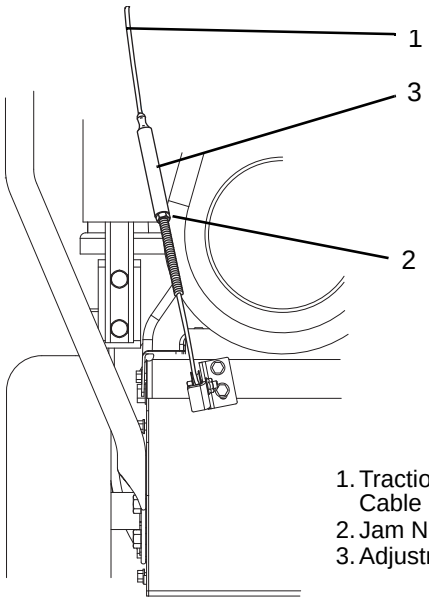
OS2490

To adjust traction clutch (Figure 18):

1. Loosen jam nut on traction clutch cable adjustment barrel.

   Turn adjustment barrel up the cable to decrease the distance between clutch lever and handlebar.

   Turn the adjustment barrel down the cable to increase the distance between clutch lever and handlebar.
2. Check traction clutch lever distance and repeat adjustment steps if necessary.
3. Tighten jam nut on traction cable adjustment barrel.



1. Traction Clutch Cable
2. Jam Nut
3. Adjustment Barrel

Figure 19

ATTACHMENT DRIVE BELT REPLACEMENT

Remove Attachment Drive Belt

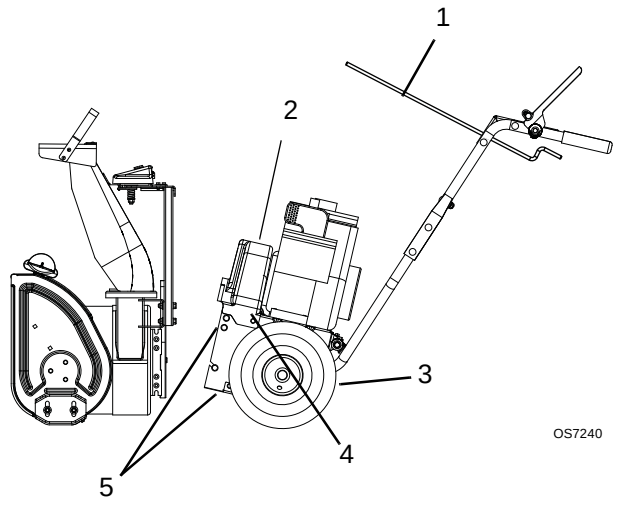
(Figures 20 and 21)

1. Shut off engine, remove key, disconnect spark plug wire and allow unit to cool completely.
2. Remove two screws securing belt cover to unit and remove belt cover.
3. Remove spring pin from chute crank and seperate (Figure 20).
4. Remove belt fingers by removing cap screws mounting belt fingers to engine (Figure 21)

CAUTION: Always support Sno-Thro frame and housing when loosening the cap screws holding them together. Never loosen cap screws while unit is in service position.

IMPORTANT: To avoid bending bottom cover, remove the cover before separating the blower housing from the unit.

5. Support Sno-Thro frame and housing.
6. Remove top two cap screws and loosen lower cap screw holding blower housing to frame on each side.
7. Remove attachment drive belt from engine sheave (it may be necessary to turn engine sheave using recoil starter handle).
8. Separate housing from unit. Lower handlebar on floor.
9. Remove attachment drive belt from lower pulley.



1. Chute Crank
2. Belt Cover
3. Bottom Cover
4. Belt Cover Screw
5. Housing Bolt Holes

Figure 20

Replace Attachment Drive Belt

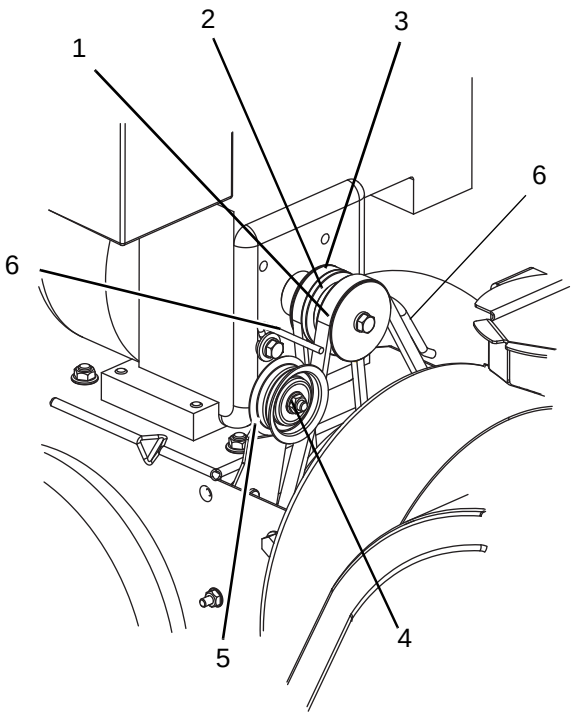
1. Place new belt onto lower pulley and while holding brake out of way, tip unit together.

NOTE: Engage attachment clutch lever while connecting housing to frame to hold brake out of the way.

2. Secure blower housing to frame with cap screws removed in step 6 of *Remove Attachment Drive Belt* on page 20.
3. Place belt onto engine sheave.
4. Replace belt fingers.

IMPORTANT: BELT FINGERS MUST BE SET as shown in Figure 22. Improper adjustment may cause impeller to rotate while attachment clutch is disengaged.

5. Adjust clutch per *Attachment Clutch/Brake Adjustment* on page 18.
6. Replace belt cover and secure with cap screws.
7. Run-in the drive belt according to instructions in *Run-in Attachment Belt* on page 10 and then check attachment drive clutch adjustment. See *Attachment Clutch/Brake Adjustment* on page 18.



1. Attachment Drive Belt
2. Engine Sheave
3. Traction Drive Belt
4. Attachment Idler Nut
5. Attachment Belt Idler
6. Belt Finger

Figure 21

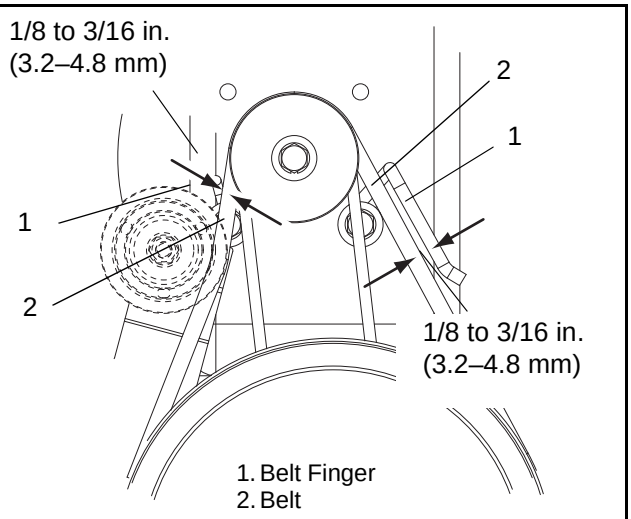


Figure 22

TRACTION DRIVE BELT REPLACEMENT

NOTE: Housing and frame must be tipped apart and attachment drive belt removed from engine sheave in order to change traction drive belt (Figures 20 and 21).

CAUTION: Always support Sno-Thro frame and blower housing when loosening the cap screws holding them together. Never loosen cap screws while unit is in service position.

1. Shut off engine, remove key, disconnect spark plug wire and allow unit to cool completely.
2. Remove attachment drive belt (See *Remove Attachment Drive Belt* on page 20).
3. Push the traction drive belt off the engine pulley toward the engine as shown in Figure 23.

NOTE: To make belt removal easier, slowly pull the recoil starter while pushing the traction drive belt off the engine pulley.

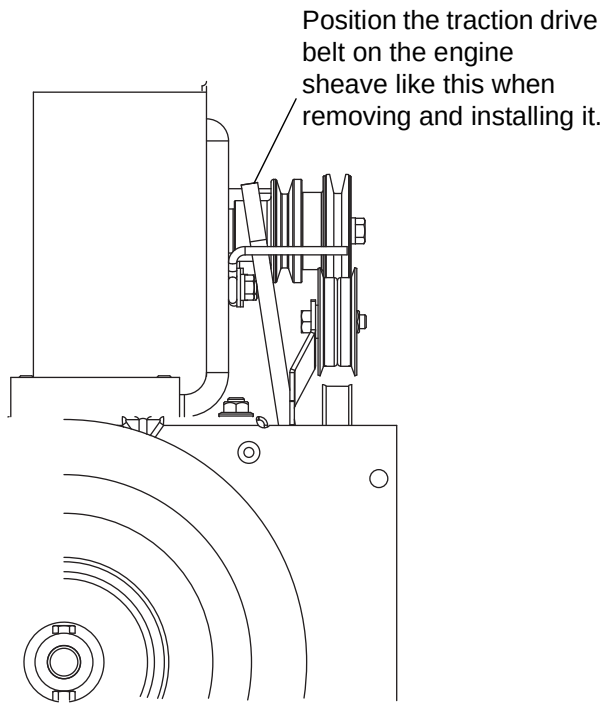


Figure 23

4. Remove and discard traction drive belt from the unit.
5. Place new traction drive belt on engine pulley between the engine and pulley groove as shown in Figure 23.
6. Place new traction drive belt on transmission pulley.
7. Push the new traction drive belt onto the grooves in the engine pulley.

NOTE: Slowly pull the recoil starter while pushing the traction drive belt onto the engine pulley. Make sure the belt seats properly in the grooves of the transmission and engine pulleys.

8. Replace attachment drive belt (See *Replace Attachment Drive Belt* on page 20).
9. Check traction drive clutch adjustment. See *Traction Drive Clutch Adjustment* on page 19.

STORAGE

WARNING: AVOID INJURY. Read and understand the entire *Safety* section before proceeding.

SHORT TERM

IMPORTANT: NEVER spray unit with high pressure water or store unit outdoors.

Run with attachment clutch engaged a few minutes after each use to free unit of any loose or melting snow.

Inspect unit for visible signs of wear, breakage or damage.

Keep all nuts, bolts and screws properly tightened and know unit is in safe working condition.

Store unit in a cool, dry protected area.

LONG TERM

Clean unit thoroughly with mild soap and low pressure water and lubricate (see Maintenance). Touch up all scratched painted surfaces.

Remove weight from wheels by putting blocks under frame or axle.

When storing unit for extended periods of time, remove all fuel from tank and carburetor (run dry). Refer to Engine Manual.

SERVICE PARTS

Order the following parts through your Dealer:

Part No.	Description
00036800	Ariens Hi-Temp Grease (3, 3 oz. cartridges)
21533400	Spark Plug
07200108	Impeller Belt
07200109	Stretch Fit Traction Belt
53200500	Shear Bolts

ACCESSORIES

See your authorized Ariens dealer to add the additional accessories available to your Sno-Thro.

Part No.	Description
73203100	Slicer Bar*
73202500	240 Volt Starter Kit*
72406500	Front Weight Kit*

*Available in CE countries.

TROUBLESHOOTING		
PROBLEM	**PROBABLE CAUSE**	**CORRECTION**
Engine will not crank/start.	1. Fuel tank is empty. 2. Build up of dirt and residue around governor/carburetor. 3. Key Switch not in run position. 4. Electric starter not functioning.	1. Fill fuel tank. 2. Clean area around governor/carburetor. 3. Put Key Switch into run position. 4. Check for a bad starter or connections.
Engine stops.	1. Out of fuel. 2. Mechanical jam in blower rake or impeller. 3. Polluted fuel supply. 4. Faulty spark plug.	1. Fill fuel tank. 2. Turn off engine, remove key, and wait for all moving parts to stop. Check for and remove obstruction and repair before restart. 3. Replace with clean fuel. 4. Replace or clean spark plug.
Engine problems.	1. See Engine Manual.	
Does not drive forward.	1. Traction drive cable not adjusted properly. 2. Traction belt not functioning.	1. Adjust traction drive cable. *See Traction Drive Clutch Adjustment* on page 19. 2. Repair or replace traction drive belt. *See Traction Drive Belt Replacement* on page 21.
Unit throws snow poorly or does not throw snow.	1. Shear bolts broken. 2. Attachment clutch/brake not adjusted properly. 3. Auger is frozen in place. 4. Ice or debris is obstructing auger. 5. Attachment drive belt slipping, worn or damaged.	1. Replace shear bolts *(see Shear Bolts* on page 17). 2. Adjust attachment clutch/brake *(see Attachment Clutch/Brake Adjustment* on page 18). 3. Move unit to a warm place to thaw. 4. With the engine off and auger disengaged, check for obstructions and remove. 5. Adjust or replace attachment drive belt *(see Attachment Clutch/Brake Adjustment* on page 18).

SPECIFICATIONS	
Model Number	939003
Description	ST520E
Engine - Tecumseh	LH195SA
Engine Power – hp (kW) at Maximum RPM	5.0 (3.7)
Fast Idle Speed-RPM (min^{-1})	3600 ± 150
Displacement - in. (cc)	11.88 (195)
Electric Start	120V
Fuel	See Engine Manual
Tank Capacity - qt. (L)	2.0 (1.96)
Snow Clearing Width - in. (cm)	20 (50.8)
Chute	
Rotation Angle	200°
Impeller	
Diameter - in. (cm)	12 (30.5)
Speed-RPM-Max (min^{-1})	1200
Auger	
Diameter - in. (cm)	11.0 (27.98)
Speed-RPM-Max (min^{-1})	120
Auger Brake	Yes
Drive	Clutching Wet Sump Gearbox
Speeds	1 Forward
Pneumatic Tires - in.	10
Size and Weight	
Height - in. (cm)	43.13 (109.53)
Length - in. (cm)	51.25 (130.18)
Width - in. (cm)	22.38 (56.84)
Weight - lbs (Kg)	125 (56.7)

Ariens Limited Warranties

2-Year Limited Lawn and Garden Consumer Warranty

Ariens Company (Ariens) warrants to the **original purchaser** that Ariens and Gravely brand consumer products manufactured by Ariens Company will be free from defects in material and workmanship for a period of two (2) years after the date of purchase, and that Ariens will repair any defect in material or workmanship, and repair or replace any defective part, subject to the conditions, limitations and exclusions set forth herein. Such repair or replacement will be free of charge to the **original purchaser** (labor and parts), except as noted below.

The two-year duration of this warranty applies only if the product is put to ordinary, reasonable, and usual personal, family, or household uses. If the product is put to any business, commercial, or industrial use such as, but not limited to, commercial landscaping, mowing or snow removal services, or golf course or park maintenance, or agricultural or farmstead use, then the duration of this warranty is ninety (90) days after the date of purchase, or one (1) year after the date of purchase if the product is labeled as a Professional/Commercial Product. The duration of this warranty shall be ninety (90) days after the date of purchase if any product is rented or leased.

2-Year Limited Lawn and Garden Commercial Warranty

The Ariens Company (Ariens) warrants to the **original purchaser** that all Gravely Pro and ProMaster products manufactured by Ariens will be free from defects in material and workmanship for a period of two (2) years after the date of purchase or 1000 hours of use, whichever comes first. An authorized Gravely dealer will repair any defect in material or workmanship, and repair or replace any defective part, subject to the conditions, limitations and exclusions set forth herein. Such repair or replacement will be free of charge to the **original purchaser** (labor and parts), except as noted below.

The duration of this warranty shall be ninety (90) days after the date of purchase or 1000 hours of use, whichever comes first, if any product is rented or leased.

3-Year Limited Sno-Thro Warranty

Ariens Company (Ariens) warrants to the **original purchaser** that Sno-Thro products manufactured by Ariens Company will be free from defects in material and workmanship for a period of three (3) years after the date of purchase, and will repair any defect in material or workmanship, and repair or replace any defective part, subject to the conditions, limitations and exclusions set forth herein. Such repair or replacement will be free of charge to the **original purchaser** (labor and parts), except as noted below.

The three-year duration of this warranty applies only if the product is put to ordinary, reasonable, and usual personal, family, or household uses. If the product is put to any business, commercial, or industrial use, then the duration of this warranty is ninety (90) days after the date of purchase, or one (1) year after the date of purchase if the product is labeled as a Professional/Commercial Product. The duration of this warranty shall be ninety (90) days after the date of purchase if any product is rented or leased.

DURA-CLEAN™ Auger Limited Lifetime Warranty

Ariens Company (Ariens) warrants to the **original purchaser** that the rubber components of the DURA-CLEAN™ Auger manufactured by Ariens Company will be free from defects in material and workmanship and will not wear out for the life of the Sno-Thro, except as noted below.

Ariens Company will provide for the replacement of any of the rubber components of the DURA-CLEAN™ Auger found upon examination by the Ariens Company to be defective or worn out. Replacements will be supplied free of charge. Labor is not included after two (2) years from the date of purchase of the Sno-Thro.

The lifetime limited warranty shall apply if the product is put to ordinary, reasonable, and usual personal household use. If the product is put to any business, commercial, industrial, rental, or leased use, the warranty shall be against defects in material and workmanship for ninety (90) days following the date of purchase.

Exceptions, Limitations, Exclusions

These warranties are subject to the following conditions, limitations, and exclusions:

To obtain warranty service, the following conditions must be met:

- The purchaser must perform the maintenance and minor adjustments explained in the owner's manual.
- The purchaser must promptly notify Ariens Company or an authorized Ariens service representative of the need for warranty service.
- The purchaser must transport the product to and from the place of warranty service.
- Warranty service must be performed by a respective Ariens or Gravely authorized service representative.
- To find an Ariens or Gravely authorized service representative, contact Ariens at:

655 W. Ryan St, P.O. Box 157
Brillion, WI 54110-0157
(920) 756 - 2141
www.ariens.com
www.gravely.com

This warranty is subject to the following limitations:

- Genuine Ariens or Gravely brand service parts and accessories not purchased with the product covered by this warranty, but which are later purchased and used with that product, are warranted to be free from defects in material and workmanship for a period of ninety (90) days after date of purchase, and Ariens Company will repair or replace any such part or accessory free of charge, except for labor, during that period.
- Batteries are warranted only for a period of twelve (12) months after date of purchase, on a prorated basis. For the first ninety (90) days of the warranty period, a defective battery will be replaced free of charge. If the applicable warranty period is more than 90 days, Ariens Company will cover the prorated cost of any defective battery, for up to twelve (12) months after the date of purchase.

The following items are excluded from this warranty:

- Engines and engine accessories are covered only by the engine manufacturer's warranty and are not covered by this warranty.
- Peerless gearboxes and/or transmissions are covered only by Peerless' warranty and are not covered by this warranty.
- Hydro-Gear transmissions and/or Hydro-Gear drive components are covered only by the Hydro-Gear warranty and are not covered by this warranty.
- Parts that are not genuine Ariens or Gravely brand service parts are not covered by this warranty.
- Except as specifically warranted, normal maintenance, services, and normal replacement items, such as spark plugs, oil, oil filters, air filters, mufflers, belts, tires, shoes, runners, scraper blades, shear bolts, mower blades, mower vanes, headlights, light bulbs, knives, etc. are not covered by this warranty except as noted below.
- Mufflers, belts, and tires on consumer lawn and garden products are warranted to the **original purchaser** for two years.
- Friction discs, idlers, cables, and electrical components on Sno-Thros put to usual personal household use are warranted to the **original purchaser** for two years.
- Any defect which is the result of misuse, alteration, improper assembly, improper adjustment, neglect, or accident is not covered by this warranty.
- This warranty applies only to products purchased in the United States (including Puerto Rico) and Canada. In all other countries, contact place of purchase for warranty information.

Ariens may from time to time change the design of its products. Nothing contained in this warranty shall be construed as obligating Ariens to incorporate such design changes into previously manufactured products, nor shall such changes be construed as an admission that previous designs were defective.

LIMITATION OF REMEDY AND DAMAGES

Ariens Company's liability under this warranty, and under any implied warranty that may exist, is limited to repair of any defect in workmanship, and repair or replacement of any defective part. Ariens Company shall not be liable for incidental, special, or consequential damages (including lost profits). Some states do not allow the exclusion of incidental or consequential damages, so the above limitation or exclusion may not apply to you.

DISCLAIMER OF FURTHER WARRANTY

Ariens Company makes no warranty, express or implied, other than what is expressly made in this warranty. If the law of your state provides that an implied warranty of merchantability, or an implied warranty of fitness for particular purpose, or any other implied warranty, applies to Ariens Company, then any such implied warranty is limited to the duration of this warranty. Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you.

This warranty gives you specific legal rights, and you may also have other rights which vary from state to state.

Ariens Company
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P.O. Box 157
Brillion, WI 54110-0157
920-756-2141
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⚠ WARNING ⚠

The engine exhaust from this product contains chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.